

What is claimed is:

1. A water heating system comprising:  
a reservoir for containing water;  
a lower portion of the reservoir defining an inlet zone; and  
an upper portion of the reservoir defining an outlet zone;  
a water inlet in fluid communication with a source of water and the inlet zone;  
a heater having an active heating portion positioned in the inlet zone;  
a temperature sensor positioned for sensing temperature in the inlet zone;  
a water outlet in fluid communication with the outlet zone; and  
a controller coupled to the heater and the temperature sensor, the controller using information from the temperature sensor to controllably operate the heater to maintain a predetermined temperature within the reservoir.
2. The water heating system of claim 1 further comprising:  
a bottom being defined in the reservoir; and  
positioning the heating element of the heater in close proximity to the bottom.
3. The water heating system of claim 2 further comprising positioning the active heating portion of the heater proximate to the bottom and a distance which is sufficient to prevent accumulation of mineral deposits extending between the active heating portion and the bottom.
4. The water heating system of claim 1 further comprising the temperature sensor positioned in the inlet zone in close proximity to the active heating portion of the heater.
5. The water heating system of claim 4 further comprising positioning the temperature sensor above the active heating portion of the heater.
6. The water heating system of claim 5 further comprising positioning the temperature sensor being positioned sufficiently spaced from the active heating portion of the heater to prevent detecting a false temperature signal.
7. The water heating system of claim 1 further comprising the inlet zone being defined by a volume approximately equal to a unit of volume to be dispensed.
8. The water heating system of claim 1 further comprising the outlet zone being defined as a unit of volume to be dispensed from the reservoir.
9. The water heating system of claim 1 further comprising the inlet zone being defined as a unit of volume to be dispensed, the outlet zone being defined as a unit of volume to be dispensed.

10. The water heating system of claim 1 further comprising the inlet zone being defined as a unit of volume to be dispensed, the outlet zone being defined as a unit of volume to be dispensed and one or more units of volume to be dispensed defined between the inlet zone and the outlet zone.

11. The water heating system of claim 1 further comprising the active heating portion of the heater being positioned in the upper portion of the inlet zone and operatively positioned below the temperature sensor positioned in the inlet zone.

12. The water heating system of claim 1 further comprising the water heating inlet being positioned in the lower portion of the inlet zone.

13. The water heating system of claim 1 further comprising a top of the reservoir covering a generally open upper portion of the outlet zone;

the heater carried on and extending through the top and extending into the reservoir with the active heating portion of the heater positioned in the inlet zone, a cold plug portion of the heater positioned between the active heating portion and the top.

14. The water heating system of claim 1 further comprising a top carried on the reservoir, the temperature sensor carried on and extending through the top, the temperature sensor extending into the reservoir to a position proximate to the active heating portion of the heater for sensing the temperature in the inlet zone.

15. The water heating system of claim 1 further comprising a top carried on the reservoir, the heater and the temperature sensor carried on and extending through the top;

the heater extending into the reservoir for detecting the temperature of the water in the inlet zone and the temperature sensor extending into the reservoir to a position in the inlet zone proximate to and above the heater.

16. The water heating system of claim 1 further comprising a reservoir defining a wall, the heater and the temperature sensor carried on and extending through the wall generally at a position proximate to the inlet zone with the active heating portion of the heater positioned in the inlet zone and the temperature sensor positioned in the inlet zone generally above the heater.

17. The water heating system of claim 1 further comprising the water inlet being coupled to a pressurized water line, a controllable valve being operatively associated with one of the inlet and outlet lines, the controllable valve being coupled to the controller for controlling the dispensing of water from the reservoir.

18. The water heating system of claim 1 further comprising the inlet being coupled to a pour-over fill basin receiving a quantity of water to be dispensed into the reservoir.

19. A water heating system comprising:  
a reservoir for containing a plurality of units of volume for dispensing;  
a lower portion of the reservoir defining an inlet zone of approximately one unit of volume;  
an upper portion of the reservoir defining an outlet zone having a volume of approximately one unit of volume;  
a water inlet in fluid communication with a water source;  
the water inlet communicating with a lower portion of the inlet zone;  
a heater having an active heating portion positioned in the inlet zone and generally proximate to the water inlet for heating water introduced into the inlet zone;  
a temperature sensor positioned in the inlet zone generally above the active heating portion of the heater and sufficiently spaced from the heater for sensing water temperature in the inlet zone;  
a water outlet in fluid communication with the outlet zone generally in the upper portion of the outlet zone; and  
a controller coupled to the heater and temperature sensor, the controller using information from the temperature sensor to controllably operate the heater to maintain a predetermined temperature within the reservoir.

20. A heated water apparatus comprising:  
a reservoir for heating water;  
a lower portion of the reservoir defining an inlet zone;  
an upper portion of the reservoir defining an outlet zone;  
a water inlet positioned proximate to an in communication with the inlet zone, the water inlet being connectable to a water source;  
a heater having an active heating portion positioned in the inlet zone;  
a temperature sensor positioned in the inlet zone for sensing temperature in the inlet zone;  
a water outlet positioned in an in communication with the outlet zone; and  
a controller coupled to the heater and temperature sensor, the controller operating the heater in response to the temperature sensor for maintaining at least one of a predetermined temperature and a temperature range within the reservoir.

21. The heated water apparatus of claim 20 further comprising:  
a bottom being defined in the reservoir; and  
positioning the heating element of the heater in close proximity to the bottom.
22. The heated water apparatus of claim 21 further comprising positioning the active heating portion of the heater proximate to the bottom and a distance which is sufficient to prevent accumulation of mineral deposits extending between the active heating portion and the bottom.
23. The heated water apparatus of claim 20 further comprising the temperature sensor positioned in the inlet zone in close proximity to the active heating portion of the heater.
24. The heated water apparatus of claim 23 further comprising positioning the temperature sensor above the active heating portion of the heater.
25. The heated water apparatus of claim 24 further comprising positioning the temperature sensor being positioned sufficiently spaced from the active heating portion of the heater to prevent detecting a false temperature signal.
26. The heated water apparatus of claim 20 further comprising the inlet zone being defined by a volume approximately equal to a unit of volume to be dispensed.
27. The heated water apparatus of claim 20 further comprising the outlet zone being defined as a unit of volume to be dispensed from the reservoir.
28. The heated water apparatus of claim 20 further comprising the inlet zone being defined as a unit of volume to be dispensed, the outlet zone being defined as a unit of volume to be dispensed.
29. The heated water apparatus of claim 20 further comprising the inlet zone being defined as a unit of volume to be dispensed, the outlet zone being defined as a unit of volume to be dispensed and one or more units of volume to be dispensed defined between the inlet zone and the outlet zone.
30. The heated water apparatus of claim 20 further comprising the active heating portion of the heater being positioned in the upper portion of the inlet zone and operatively positioned below the temperature sensor positioned in the inlet zone.
31. The heated water apparatus of claim 20 further comprising the water heating inlet being positioned in the lower portion of the inlet zone.
32. The heated water apparatus of claim 20 further comprising a top of the reservoir covering a generally open upper portion of the outlet zone;

the heater carried on and extending through the top and extending into the reservoir with the active heating portion of the heater positioned in the inlet zone, a cold plug portion of the heater positioned between the active heating portion and the top.

33. The heated water apparatus of claim 20 further comprising a top carried on the reservoir, the temperature sensor carried on and extending through the top, the temperature sensor extending into the reservoir to a position proximate to the active heating portion of the heater for sensing the temperature in the inlet zone.

34. The heated water apparatus of claim 20 further comprising a top carried on the reservoir, the heater and the temperature sensor carried on and extending through the top;

the heater extending into the reservoir for detecting the temperature of the water in the inlet zone and the temperature sensor extending into the reservoir to a position in the inlet zone proximate to and above the heater.

35. The heated water apparatus of claim 20 further comprising a reservoir defining a wall, the heater and the temperature sensor carried on and extending through the wall generally at a position proximate to the inlet zone with the active heating portion of the heater positioned in the inlet zone and the temperature sensor positioned in the inlet zone generally above the heater.

36. The heated water apparatus of claim 20 further comprising the water inlet being coupled to a pressurized water line, a controllable valve being operatively associated with one of the inlet and outlet lines, the controllable valve being coupled to the controller for controlling the dispensing of water from the reservoir.

37. The heated water apparatus of claim 18 further comprising the inlet being coupled to a pour-over fill basin receiving a quantity of water to be dispensed into the reservoir.

38. A method of heating water for dispensing, the method comprising the steps of:

providing a reservoir, the reservoir defining at least an inlet zone and an outlet zone being defined by a unit of volume to be dispensed;

providing a heater having an active heating portion;

providing a temperature sensor;

providing a water source for providing water to the reservoir;

providing an outlet communicating with the outlet portion of the reservoir;

dispensing water into the inlet zone of the reservoir;  
detecting the temperature of the water in the inlet zone;  
activating the heater in response to at least one of a change in the temperature and sensing of a predetermined temperature in the inlet zone.

39. The method of heating water of claim 38 further comprising:  
providing a bottom being defined in the reservoir; and  
positioning the heating element of the heater in close proximity to the bottom.

40. The method of heating water of claim 39 further comprising  
positioning the active heating portion of the heater proximate to the bottom  
and a distance which is sufficient to prevent accumulation of mineral deposits  
extending between the active heating portion and the bottom.

41. The method of heating water of claim 38 further comprising  
positioning the temperature sensor in the inlet zone in close proximity to the  
active heating portion of the heater.

42. The method of heating water of claim 41 further comprising  
positioning the temperature sensor above the active heating portion of the  
heater.

43. The method of heating water of claim 42 further comprising  
positioning the temperature sensor being positioned sufficiently spaced from  
the active heating portion of the heater to prevent detecting a false temperature signal.

44. The method of heating water of claim 38 further comprising  
defining the inlet zone by a volume approximately equal to a unit of volume to  
be dispensed.

45. The method of heating water of claim 38 further comprising  
defining the outlet zone as a unit of volume to be dispensed from the reservoir.

46. The method of heating water of claim 38 further comprising  
defining the inlet zone as a unit of volume to be dispensed, and  
defining the outlet zone as a unit of volume to be dispensed.

47. The method of heating water of claim 38 further comprising  
defining the inlet zone as a unit of volume to be dispensed;  
defining the outlet zone as a unit of volume to be dispensed; and  
defining one or more units of volume to be dispensed between the inlet zone  
and the outlet zone.

48. The method of heating water of claim 38 further comprising

positioning the active heating portion of the heater being in the upper portion of the inlet zone and below the temperature sensor positioned in the inlet zone.

49. The water heating system of claim 38 further comprising positioning the water heating inlet being in the lower portion of the inlet zone.

50. The method of heating water of claim 38 further comprising providing a top of the reservoir covering a generally open upper portion of the outlet zone; and

providing the heater carried on and extending through the top and extending into the reservoir with the active heating portion of the heater positioned in the inlet zone, a cold plug portion of the heater positioned between the active heating portion and the top.

51. The method of heating water of claim 38 further comprising providing a top carried on the reservoir, the temperature sensor carried on and extending through the top, the temperature sensor extending into the reservoir to a position proximate to the active heating portion of the heater for sensing the temperature in the inlet zone.

52. The method of heating water of claim 38 further comprising providing a top carried on the reservoir, the heater and the temperature sensor carried on and extending through the top;

the heater extending into the reservoir for detecting the temperature of the water in the inlet zone and the temperature sensor extending into the reservoir to a position in the inlet zone proximate to and above the heater.

53. The method of heating water of claim 38 further comprising providing a reservoir defining a wall; positioning the heater and the temperature sensor carried on and extending through the wall generally at a position proximate to the inlet zone with the active heating portion of the heater positioned in the inlet zone and the temperature sensor positioned in the inlet zone generally above the heater.